

NATIONAL WEATHER SERVICE INSTRUCTION 10-330

May 21, 2002

Operations and Services

MARINE AND COASTAL WEATHER SERVICE PROGRAM, NWSPD 10-3

OCEAN ICE SERVICES

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Signed

April 4, 2002

Gregory A. Mandt
Director, Office of Climate,
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Date

OCEAN ICE SERVICES

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1. Introduction. This instruction describes the NWS Ocean Ice Services.

2. Alaskan Ice Products. Forecasts, analyses, and advisories will be produced routinely throughout the year by the WFO Anchorage for the sea waters surrounding Alaska. Lake ice and icebergs or glacier ice detached from glaciers and floating in sea water are excluded.

3. Sea Ice Advisory. A 5 day Sea Ice Advisory will be issued three times a week on Mondays, Wednesdays, and Fridays.

- 3.1 The Seasonal Ice Outlook. The Seasonal Ice Outlook should be included in issuances of the Sea Ice Advisory during the first week of the month as follows:

January...the outlook for the winter is provided.

February...the outlook for late winter and early spring is provided.

May...the outlook for the spring and summer is provided.

The objective of the outlook is to identify a representative pattern year from the ice atlas for the outlook period.

4. Graphic Products. Graphic products should be issued 3 times weekly on Mondays, Wednesdays, and Fridays. Graphic products will be consistent with the concurrent text products. In addition, NWS graphics should be consistent with those of the National Ice Center (NIC).

4.1 Ice Analysis. A graphical analysis of the sea ice conditions over the waters surrounding Alaska, West from the Kenai Peninsula to the International Date Line and North to the Bering Sea and Arctic Ocean.

4.2 Cook Inlet Ice analysis. A detailed graphical analysis of the sea ice conditions over the waters of the Cook Inlet.

4.3 Sea Surface Temperature Analysis. A graphical depiction of sea water temperatures for the areas surrounding Alaska.

4.4 Five Day Sea Ice Forecast. A graphical 5 day forecast, showing expected ice conditions over the waters surrounding Alaska.

5. Marine Weather Statement. Ice also forms in various bays and coastal areas of the 48 contiguous states. Marine Weather Statements(MWSs) may be used to alert mariners of such conditions in their marine area if, in the forecaster's judgement, they may be hazardous to shipping.

APPENDIX A- EXAMPLES OF OCEAN ICE PRODUCTS

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1. Examples of Alaskan Ice Products.

1.1 Alaskan Sea Ice Advisory.

FZAK70 PANC 291510

ICEANC

SEA ICE ADVISORY FOR THE WESTERN AND ARCTIC ALASKAN COASTAL WATERS

NATIONAL WEATHER SERVICE ANCHORAGE ALASKA

ISSUED 3:45 PM ADT MON 28 MAY 2001 FORECAST VALID SAT 2 JUN 2001.

CONFIDENCE: MODERATE.

ARCTIC OCEAN...

10A. KOTZEBUE SOUND EAST OF CAPE ESPENBERG AND CAPE KRUSENSTERN.

10B. WALES TO CAPE LISBURNE.

11A. WESTERN ARCTIC COAST, CAPE LISBURNE TO CAPE HALKETT

11B. EASTERN ARCTIC COAST, CAPE HALKETT TO DEMARCATION POINT.

SEA ICE COVERED.

A 3-50 NM WIDE AREA OF OPEN WATER LIES FROM 20 NM NORTHEAST OF BARROW TO KIVALINA. THE OPEN WATER IS GENERALLY LESS THAN 15 NM WIDE NORTH OF ICY CAPE. THE WIDEST AREAS ARE SOUTH OF CAPE BEAUFORT.

A STRIP OF SEA ICE FREE WATER 10-20 NM WIDE LIES 70 NM NORTH OF WALES. AN AREA OF OPEN WATER LIES SOUTH OF 67.5N BETWEEN 169W AND 171W.

FORECAST THROUGH SATURDAY...

...POSSIBLE IVU EVENT BETWEEN ICY CAPE AND BARROW WEDNESDAY AND THURSDAY...

HIGH PRESSURE OVER THE ARCTIC COAST WILL MOVE INLAND MONDAY NIGHT AND WILL LIE EAST-WEST ACROSS MAINLAND ALASKA BY WEDNESDAY. A LOW 500 NM WEST OF WRANGEL ISLAND WILL MOVE TO 300 NM NORTH OF WRANGEL ISLAND BY TUESDAY AFTERNOON. IT WILL MOVE NORTH NORTHEAST THEREAFTER.

A LOW WILL DEVELOP 150 NM SOUTH OF WRANGEL ISLAND WEDNESDAY AFTERNOON. IT WILL MOVE TO 150 NM NORTH OF BARROW BY THURSDAY AFTERNOON AND TO 250 NM WEST OF BANKS ISLAND BY FRIDAY AFTERNOON. A LOW WILL DEVELOP 120 NM SOUTH OF BARTER ISLAND WEDNESDAY NIGHT. IT WILL MOVE THROUGH MACKENZIE BAY THURSDAY NIGHT AND MERGE WITH THE BANKS ISLAND LOW BY FRIDAY AFTERNOON.

A LOW 330 NM WEST OF WRANGEL ISLAND ON THURSDAY AFTERNOON WILL MOVE ACROSS THE SOUTHERN CHUKCHI SEA FRIDAY NIGHT AND WILL BE 60 NM NORTH OF PRUDHOE BAY SATURDAY AFTERNOON.

BARROW TO CAPE LISBURNE...SOUTHEAST WINDS WILL BECOME SOUTHWEST BY TUESDAY AFTERNOON. WINDS WILL BECOME NORTHWEST THURSDAY AFTERNOON. WINDS WILL BECOME SOUTH THURSDAY NIGHT AND SOUTHEAST ON FRIDAY. WINDS WILL BECOME SOUTHWEST BY SATURDAY AFTERNOON. LEADS AND OPEN WATER WILL EXPAND THROUGH TUESDAY MORNING. LEADS AND OPEN WATER WILL DIMINISH WITH POSSIBLE IVU EVENT BETWEEN ICY CAPE AND BARROW WEDNESDAY AND THURSDAY. LEADS AND OPEN WATER WILL EXPAND AGAIN FRIDAY AND SATURDAY.

CAPE LISBURNE TO KOTZEBUE SOUND...SOUTH TO WEST WINDS WILL BLOW THROUGH SATURDAY CAUSING LEADS AND OPEN WATER TO DIMINISH THROUGH SATURDAY.

KOTZEBUE SOUND TO WALES...SOUTH TO WEST WINDS WILL BLOW THROUGH SATURDAY CAUSING LEADS AND OPEN WATER TO EXPAND.

BERING SEA...

AREA 9A. NORTON SOUND, SLEDGE ISLAND TO NANAKTUK ISLAND.

AREA 9B. ST. LAWRENCE ISLAND WATERS, DALL POINT TO WALES.

AREA 14. ST. MATTHEW ISLAND WATERS

AREA 8. CAPE NEWENHAM TO DALL POINT.

...SHOREFAST ICE IS BREAKING FREE FROM THE NORTHWEST COAST OF KUSKOKWIM BAY TO THE MIDDLE MOUTH OF THE YUKON RIVER...

THE MAIN ICE EDGE LIES FROM 59.8N 163.3W TO 59.7N 163.5W TO 59.7N 165W TO 59N 166.5W TO 58.3N 169.8W TO 60.4N 173.5W TO 61N 173.7W TO 61.9N 169.8W TO NORTHEAST CAPE OF ST. LAWRENCE ISLAND. THE ICE EDGE THEN CONTINUES FROM 63.6N 170W TO 63.6N 168.3W TO 62.6N 166W TO 63.8N 164W TO 63.9N 162.7W TO 63.4N 161.5W. THE ICE EDGE IS 0-8 TENTHS FIRST YEAR THIN AND YOUNG ICE. AN AREA OF OPEN WATER 10-50 NM WIDE LIES BETWEEN HAZEN BAY AND THE SOUTH MOUTH OF THE YUKON RIVER. AN AREA OF SEA ICE FREE WATER 20 NM WIDE LIES IN ALL BUT THE NORTHERN PORTION OF ETOLIN STRAIT.

THE SHOREFAST ICE ON THE NORTH COAST OF ST. LAWRENCE ISLAND IS 5-10 NM WIDE. SHOREFAST ICE LIES IN NORTON BAY, GOLOVIN BAY AND PORT CLARENCE.

THE ICE EDGE CONTINUES FROM WALES TO 64.5N 168.3W TO UELLEN. THE ICE EDGE IS 0-3 TENTHS FIRST YEAR THIN AND MEDIUM ICE OFTEN LYING IN STRIPS.

THE ICE EDGE CONTINUES FROM 65.6N 170.5W TO 64.5N 172W TO 64.2N 171.3W TO 63.9N 171.5W TO 64.2N 173W. THE ICE EDGE IS 1-10 TENTHS FIRST YEAR THIN AND MEDIUM ICE WITH SHOREFAST ICE BREAKING FREE.

THE ICE EDGE CONTINUES FROM 65.6N 176.7W TO 65.4N 177.7W TO 64.5N 175.3W TO 63.2N 174.7W TO 62.2N 175.3W TO 61.6N 177W TO 61.6N 179.5E. THE ICE EDGE IS 0-8 TENTHS FIRST YEAR THIN AND MEDIUM ICE OFTEN LYING IN STRIPS.

FORECAST THROUGH SATURDAY...

...SHOREFAST ICE WILL BREAK FREE SOUTH OF THE BERING STRAIT THROUGH SATURDAY. THIS IS MOST LIKELY TO OCCUR BETWEEN THE NORTHWEST COAST OF KUSKOKWIM BAY AND THE MIDDLE MOUTH OF THE YUKON RIVER WHERE THE SHOREFAST ICE IS FLOODED AND IS THE WEAKEST...

HIGH PRESSURE OVER THE EASTERN AND CENTRAL BERING SEA WILL MOVE INLAND ON SATURDAY.

EAST OF 168W...THE ICE WILL MOVE 8-15 NM TO THE SOUTHEAST BY SATURDAY.

BETWEEN 168W AND 180 AND SOUTH OF 63N..THE ICE WILL MOVE 10-15 NM TO THE EAST BY SATURDAY. BETWEEN 168W AND 180 AND NORTH OF 63N..THE ICE WILL MOVE 20 NM TO THE EAST NORTHEAST BY SATURDAY.

PAGE MAY 2001

1.1.1 Examples of Alaskan Sea Ice Advisories With a Seasonal Ice Outlook.

FZAK70 PANC 040046
ICEANC

SEA ICE ADVISORY FOR THE WESTERN AND ARCTIC ALASKAN COASTAL WATERS
NATIONAL WEATHER SERVICE ANCHORAGE ALASKA
3:45 PM AST WED 3 JAN 2001

(...Sea ice advisory information...)

OUTLOOK FOR THE WINTER...

THE SEA ICE ON MONDAY 1 JANUARY 2001 LOOKS MOST LIKE 1985.

1999 IS A VERY DISTANT SECOND PLACE YEAR. ONE HAS TO SUBTRACT 3 WEEKS
TO HAVE A SIMILAR ICE EDGE SHAPE...JANUARY 1 2001 ICE EDGE LOOKS MOST
LIKE 7 DECEMBER 1998

NO OTHER YEARS ARE CLOSE.

BASED ON 1985...THE ICE EDGE WILL BE WELL NORTHEAST OF ST PAUL AND ST
MATHEWS ISLANDS FOR THE OPILO CRAB SEASON. THE ICE EDGE WILL MOVE
TOWARD THE WEST SOUTHWEST IN THE BERING SEA AS THE ALASKA MAINLAND
BECOMES COLDER THIS MONTH. COOK INLET ICE EDGE WILL APPROACH NORMAL
BY THE END OF THE MONTH BUT THE SEA ICE WILL BE MUCH THINNER THAN
NORMAL

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1.1.1.a Outlook for the late winter and early spring

FZAK70 PANC 040046
ICEANC

SEA ICE ADVISORY FOR THE WESTERN AND ARCTIC ALASKAN COASTAL WATERS
NATIONAL WEATHER SERVICE ANCHORAGE ALASKA
4 PM AST MON 5 FEB 2001

(...Sea ice advisory information...)

OUTLOOK FOR LATE WINTER AND EARLY SPRING...

THE ICE EDGE IN THE BERING SEA AS OF WEDNESDAY 31 JANUARY 2001
CONTINUES TO LOOK MOST LIKE 1985. NO OTHER YEAR IS CLOSE IN SHAPE.

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1.1.1.b Outlook for the spring and early summer

FZAK70 PANC 040046
ICEANC

SEA ICE ADVISORY FOR THE WESTERN AND ARCTIC ALASKAN COASTAL WATERS
NATIONAL WEATHER SERVICE ANCHORAGE ALASKA
3 PM AST MON 1 MAY 2001

(...Sea ice advisory information...)

OUTLOOK FOR THE SPRING AND EARLY SUMMER...

THE ICE EDGE AS OF MAY 01 LOOKS MOST LIKE 1996. 1988 AND 1993 ARE IN
SECOND AND THIRD PLACE.

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2. Marine Weather Statement Example.

FZUS73 KDTX 072113

MWSDTX

MARINE WEATHER STATEMENT

NATIONAL WEATHER SERVICE DETROIT/PONTIAC MI

413 PM EST SUN 7 JAN 2001

..SEA ICE RAPIDLY DEVELOPING IN SAGINAW BAY...

A FRIGID ARCTIC HIGH ARRIVED A DAY EARLIER THAN EXPECTED ACROSS LAKE HURON. TEMPERATURES BELOW ZERO HAVE CAUSED EXTENSIVE ICE GROWTH AROUND BAY CITY ACCORDING TO THE UNITED STATES COAST GUARD HINDERING SHIPPING INTO THAT PORT.

SHIPPERS IN THE BAY CITY AREA SHOULD BE ALERT AND CONTACT THE COAST GUARD FOR ASSISTANCE AND INSTRUCTIONS.

THIS STATEMENT (WILL/WILL NOT) BE UPDATED (.AS NEED ARISES./[AT 10:00PM EST SUNDAY.]

SMITH DEC 2002